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Volume 12, number 1
January 1991

Newsline

CORPORATE NEWS

AUG - 6 1991

1921 - 1991: 70 years of R&D and stepping stone to a bright future for the Alberta Research Council

In a relatively young province, corporate 70th anniversaries are something of a rarity.

Alberta Research Council employees can take a double measure of pride, therefore, in our January 6, 1991 birthday. It marks 70 years of dedicated service to industry and government in Alberta, and a long list of distinguished contributions to science and engineering in Canada and beyond.

Our 70th anniversary is also an opportunity to reflect on the foresight and scientific excellence of Research Council pioneers and to explore ways of using their considerable success as a springboard to future growth.

"As our vision of ARC 2000 confirms, the Alberta Research Council of the next decade will have some dramatic new dimensions – and with them will come the same kind of challenge and excitement that engaged our earliest employees," says President Dr. Clem Bowman.

"The original goal remains – economic advancement through the application of science and technology. But today's frontiers include areas of research and development unheard of only decades ago. Unparalleled opportunities await – in fields such as computing and informatics, biotechnology, advanced manufacturing and materials, space, and environmental research. Some projects are already under way – but at this point we have only begun to explore the potential."

Dr. Bowman adds that the Research Council gained early recognition for its ability to adapt quickly and effectively to the changing needs of the Alberta economy. "That openness to change will serve us well over the next decade – as we continue to explore new initiatives for linking high technology to the resource industries, expand both our staff and client base, and strengthen our national and international alliances."

AT A GLANCE

- ✶ 70 Years of R&D
- ✶ Safety requirements explained
- ✶ Incidents reported
- ✶ Feedback Corner

Come join the celebration

A 70th anniversary provides a wonderful opportunity to salute the past, plan a celebration, have some fun, and unabashedly delight in a job well done.

How do we do this in fitting manner? Some events are already planned – but all ideas and suggestions for making this "a year to remember" are welcome.

Here is a glimpse of what to expect:

- A 70th anniversary celebration luncheon will be held for all staff, retired and current, in the west atrium of the Mill Woods complex on Thursday, January 24, 1991, when Dr. Bowman will talk to us about the future and ARC 2000.
- A Wall of Fame is being developed to honor past employees – including scientists, technicians, administrative and support staff – who have made outstanding contributions to the Alberta Research Council. Symbolizing the work of all Research Council employees, this display will be housed in the Mill Woods complex for the benefit of both staff and visitors.
- A 70th anniversary art contest is designed to involve employees and their families in this special occasion. Open to children in various age categories from 5 to 17, the contest will have as its theme: "What My Mom/Dad Does at the Alberta Research Council."

Encourage your children to get involved – and be prepared for some imaginative and revealing results! First, second and third place winners in all categories will receive a plaque and a photograph. In addition, all artists will be entered in draws for family passes to the Edmonton Space and Sciences Centre and Science City tee-shirts, donated by Alberta Technology, Research and Telecommunications.

Deadline for submissions is February 28, 1991. For contest rules and further information, contact Carmen Forster in Corporate Communications, 450-5148.

Planning is now under way for the Research Council's 75th anniversary, to be celebrated in 1996. A number of ideas have already been generated, but Corporate Communications needs staff input to make this a truly remarkable event.

Anyone who would like to be part of an advisory committee to review existing suggestions and help generate new ideas is asked to contact Carmen Forster (450-5148, SATURN:: FORSTER), prior to the end of February 1991.

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Newsline is a monthly publication
for the employees of the Alberta
Research Council.

Please send all submissions
and direct all questions to
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T6H 5X2

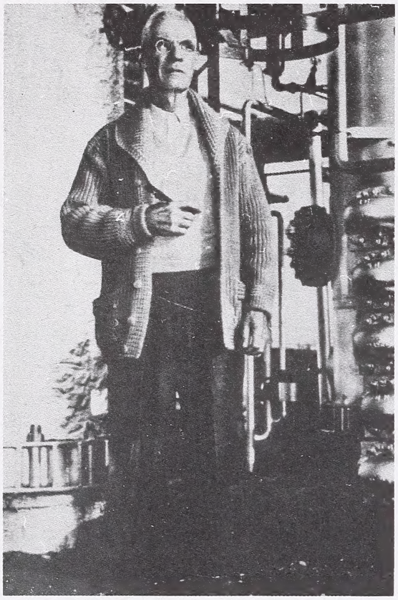
ALBERTA
RESEARCH
COUNCIL

CORPORATE NEWS *(continued from page one)*

Welcome to 1921

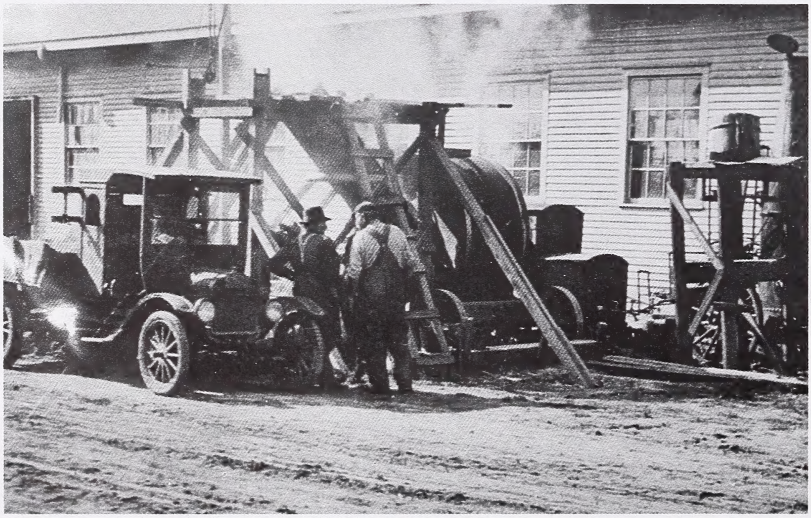
Here's a glimpse of the world on January 6, 1921 – the day the Alberta Research Council (then called the Scientific and Industrial Research Council of Alberta) was born.

- On the political scene: The Alberta government is headed by the Liberals' Charles Stewart; in Ottawa, Conservative Prime Minister Arthur Meighen is at the helm although by year-end he'll be replaced by the Liberals' William Lyon Mackenzie King; and the House of Commons gets its first woman member with the election of Agnes Campbell Macphail.

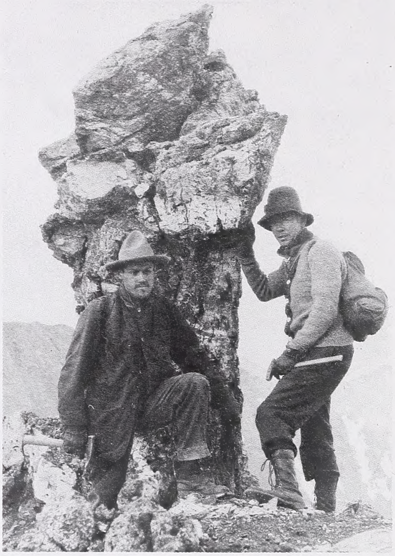


A young Dr. Karl Clark, known for his hot water process for separating bitumen from oil sands.

- Canada's population now stands at close to 8.8 million.
- A three-bedroom home costs $3,950, a new Ford goes for $625 and the gas to go in it can be had for eight cents a litre. (Balancing this, the average family income is $1,135.)
- North Americans hail such new developments as automatic windshield wipers, iodized salt and the Baby Ruth candy bar.
- The boom that followed the end of the First World War in 1918 has given way to mild recession – but, on the threshold of the Roaring Twenties, Albertans remain optimistic about a new industrial future.
- In Edmonton (pop. 58,821), citizens are calling for more and better roads, while the business community pushes for new technology to capitalize on Alberta's coal and oil sands resources.
- Southern Alberta is on the verge of "electrification" – as power lines fan out from Calgary, now a city of 63,305.
- Not far from today's Clover Bar facilities, many of Edmonton's more than 1,500 coal miners are at work in this key Alberta industry.
- Albertans thrill to the ballads of Robert Service, while famed air ace Wop May adds new chapters to the romantic annals of the bush pilot.



A 1926 experimental asphalt paving plant in Edmonton.



Another Research Council pioneer, Dr. John Allan, right, was responsible for publication of the first geological map of the province in 1926.

- On the North American social scene, women's hemlines creep above the ankle (as waistlines drop to the hips); roller skating and table tennis are in vogue; movie idol Rudolph Valentino swashbuckles across the silent screen, and Jackie Coogan, star of The Kid, is destined to receive this year's best actor award.
- While Albertans hum to such musical hits as "Ain't we Got Fun", "All By Myself", "April Showers", and "I'm Just Wild About Harry", there's little to sing about on the sports front as Toronto trounces Edmonton 23-0 in the Grey Cup and even the world famous Commercial Grads Girls Basketball Team faces rare defeat.
- At the University of Alberta, first home of the Research Council, youthful chemist Karl Clark is already at work on oil sands investigations. As the first official Research Council employee, he is soon joined by colleagues such as coal specialist Edgar Stansfield and geologist John Allan. Together they set the standard of excellence that will characterize future Research Council activity.

Seventy years in review

To look back over seven decades of Alberta Research Council history is to confront a

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CORPORATE NEWS *(continued from page two)*

kaleidoscope of world and local events. Depression, war, the Leduc oil discovery, the push for economic diversification, growing environmental concerns – all have helped to shape the character of the Research Council and the activities of its staff.

Following are just a few of the highlights in our seven-decade history:

1921: The Alberta government establishes The Scientific and Industrial Research Council by January 6 Order-in-Council.

1921-1928: First programs of the Research Council include resource surveys, coal studies, oil sands investigations, soil surveys and natural gas research.

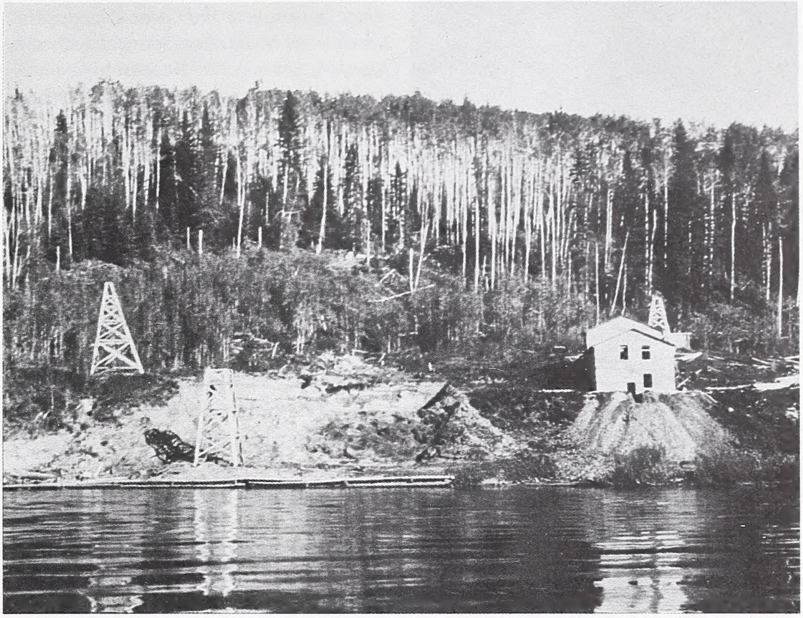
1929: Dr. Karl Clark receives a patent for the hot water extraction process to extract bitumen from mined oil sands.

1930: An Act to establish a Research Council for Alberta is passed. It will have a 10-member council and the University of Alberta president will assume the duties of director of research.

1931-1941: A weakening Alberta economy and finally full-scale Depression spell an end to Research Council plans. As government funding dries up and staff disband, only minimal research continues under auspices of the University of Alberta, the National Research Council and other agencies.

1942: In the midst of World War Two, the Research Council is rejuvenated with a mandate to secure secondary war contracts for Alberta. Within a year the Gasoline Testing Laboratory (later the Gasoline and Oil Testing Laboratory) is transferred to the Research Council from the Department of Trade and Industry.

Gladys Stott, an early member of the Gasoline and Oil Testing Laboratory, logs samples from a Department of National Defense client.



A pilot plant operated by the Alberta Research Council in 1930 to extract bitumen from oil sands outcrops on the banks of the Clearwater River.

1944-1950: During a time of Research Council expansion and post war optimism, scientists push ahead with oil sands research and such diverse projects as research on animal cycles and utilization of Alberta's poplar resource. A Highways Division is established; geological research expands; and, with the appointment of an industrial engineer, requests for industrial engineering assistance flood in.

1951: The Research Council appoints its first full-time director in Dr. Nathaniel Grace; Alberta's first oil sands conference is staged.

1953: The Alberta Research Council assumes responsibility for the National Research Council's Technical Information Service for Alberta. The Research Council budget for the year reaches an unprecedented $250,000 – and staff members "on the road" can expect $6 daily in expense money for meals and hotel.

1954-1960: During a decade of spectacular growth, staff more than doubles (rising from 65 in 1955 to 136 in 1960) and the budget hits $1 million. Activities expand to include groundwater research, hail research, microbiological investigations of coal and petroleum, and pipeline transport studies. Activities focus around new Research Council headquarters on the U of A campus, completed in 1955.

Dr. Nathanial Grace, the Research Council's first full-time director, was appointed in 1951.

1962: The Research Council moves into the age of automation with its first computer purchase.

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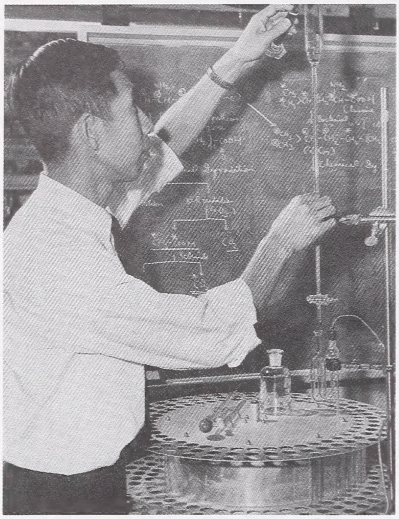

The addition of a microbiology section in the 1950s added new scope to Research Council investigations of coal and petroleum. Pictured is Dr. Toshi Kaneda, now an Alberta Research Council Research Fellow.

1964: Final administrative ties with the University of Alberta are severed, giving the Research Council more autonomy.

1965-1970: Alberta's growing industrialization is reflected in establishment of the Product Research and Development program, opening of the Clover Bar Pilot Plant in 1966, incorporation of Dr. Clark's hot water process into the Great Canadian Oil Sands (now Suncor Inc.) project, and commercialization of a Research Council-developed gas separation process, based on dry membrane permeation technology.

> ***One of the things that generated the most interest – and considerable revenue – was our work with AOSTRA. Getting into those oil sands studies brought a great increase in staff in the late seventies – and I even ended up getting some help with payroll!***
>
> ***– Maralyn Shepley***
> ***Financial Services***

1970-1979: Research during the 1970s spans river engineering and bridge hydraulics studies, cloud seeding, and sulfur pipelining projects. A novel process is discovered to recover iron from the Clear Hills iron ore deposits and Canada's first successful underground coal gasification test is completed at Forestburg.

1980: The Research Council's first Long Range Plan is unveiled, covering major programs in coal, oil sands, frontier sciences, industrial and engineering research and natural resources research.

1982: The Forest Products research program is established under federal and provincial government sponsorship.

1983: The highly successful Joint Research Venture Program is unveiled.

1984: Calgary regional headquarters are expanded to house the Advanced Technologies research program and Industrial Technology Department.

Pipeline studies during the 1960s and 1970s, such as this investigation of pipeline friction measurements, underscored the importance of Alberta's expanding energy industry.

The Campus Building, completed in 1955, became the Research Council's first permanent home and provided the opportunity for expanded technical programs.

> ***Around the mid-1980s we started to get some strange requests through the purchasing department. Once we thought we were being asked to order an Excocet Missile – until Dr. Brad Thompson explained it was something to do with his biotechnology experiments.***
>
> ***– Beryl Robinson***
> ***Administrative Services***

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CORPORATE NEWS *(continued from page four)*

1985-1986: A new wave of Research Council facilities are commissioned, including the Electronics Test Centre and Biotechnology Pilot Plant in Edmonton, the Coal Research Centre, Devon and, in 1986, new Research Council headquarters in the 30,000 square metre Mill Woods complex.

> ***A major highlight had to be the move into the new Mill Woods complex. Everybody was impressed and it made a tremendous difference to the operation to have all of the services together. Even those of us who weren't directly involved felt good about it.***
>
> ***– Andy Bosman retired***

1988: At Clover Bar, the Oil Sands and Hydrocarbon Recovery Department marks 60 years of oil sands research with an industry open house. A Forestry Department is launched to pursue R&D in this rapidly expanding sector of Alberta's economy.

Our future looks bright

Milestones inevitably raise questions about the future: what's ahead, where are we going, how will we get there?

The Alberta Research Council marks its 70th anniversary with some answers to these questions. They are contained in ARC 2000, a new model for the Alberta Research Council, one that envisions an even more challenging and rewarding role for Research Council staff in all divisions.

The Alberta Research Council aims to become an internationally recognized technology corporation, a valued and important partner in the emergence of a globally competitive Alberta. This vision sees the Alberta Research Council growing in lock step with Alberta's private sector, participating in pre-competitive consortia, in joint ventures, in contract research, and in helping to develop, adapt and apply the technology needed to meet international competition.

A hydraulic model is constructed to check the design of river training works at a highway bridge across the Smoky River.

The flexibility of industrial engineering specialists has traditionally allowed the Research Council to respond quickly to the changing needs of industry. Lou Beres, left, is still a member of the Industrial Technology Advisor Network.

ARC 2000 foresees an effort focused on linking high technologies and the resource industries and on sustainable development technologies necessary for responsible, environmentally sensitive, industrial developments. New program initiatives will be pursued as the Research Council adapts to meet the ever changing needs of Albertans. These will include waste management, health care technologies and environmental programs directed to the energy industry.

New industry-led programs, better positioning of activities in harmony with universities and technical institutes means more effective technology transfer. Additional staff and facilities will be required. As a consequence, a rise in investment in the Research Council is forecast, with a large portion of this increase being supported by industry.

The plan clearly maps an exciting future for the Research Council. Initial response from both government and industry indicate great support for the plan.

ARC 2000 has important implications for all employees. Staff opportunities will clearly expand as the organization adds new dimensions and establishes a stronger presence beyond Alberta borders. It's also clear that public expectations of Research Council performance will be even higher in future, making staff development and employee commitment key factors in ensuring the success of ARC 2000.

Safety requirements explained in detail

In the October, 1990 edition of Newsline, we listed the Alberta Research Council's new corporate safety requirements and outlined the rationale behind their development.

We also committed, at that time, to devote space in future issues of Newsline to examining the individual requirements more fully and to outlining some of the corresponding policy detail.

Since that story was written, Janis Koehler, manager, and Don Murray, Occupational Health, Safety and Hygiene, have completed a department tour and assessed staff input to these requirements. This process complete, it is now possible to examine our corporate safety requirements in detail in this and following issues.

1. All new staff in Research Council facilities will be given orientation to the Occupational Health, Safety and Hygiene Program at the Research Council, within one week of commencement of work.

Policy detail

Definition of staff – Full time, wages, summer students, secondments, joint venture personnel, personal service contract personnel, emeritus officers, visiting scientists, clients, contract personnel and do-it-yourself groups.

It is the responsibility of the department head to ensure new staff have completed the Occupational Health, Safety and Hygiene orientation within the first week of work.

Orientation is presented on the first working day of every week at 0830 hours and is held in the Mill Woods library conference room and in the Calgary office.

Orientation includes the corporate video, "Welcome to the Research Council," a review of the letter of intent and corporate safety requirements, "Introduction to WHMIS" video, and distribution of the WHMIS self-study guide.

Each new employee is also given a copy of the corporate safety program for their employee handbook.

Time – approximately one hour

Exemptions – Temporary staff working in an office environment, for not longer than 15 days duration, will not be required to have the Occupational Health, Safety and Hygiene orientation. They must, however, have orientation to the department's specific safety requirements. (see CSR #2)

Outside employees coming into laboratories, pilot plants or other restricted, hazardous areas for short periods of time, not to exceed five working days, must be assigned to a "competent" employee and must have orientation as required in CSR #2.

Competent staff are defined as adequately qualified, suitably trained and with sufficient experience to safely perform the required work with minimal supervision.

If the period of time exceeds five working days, the person(s) is expected to attend the corporate safety orientation.

2. All new staff in Research Council facilities will be given orientation to the safety program for their site and operations, on the employee's first working day.

Policy detail

The department head or designated department person is responsible for ensuring orientation is complete.

Content of the site safety orientation is defined by site and department rules and regulations, and the specific task(s) to be assigned to each employee.

Site orientation content must include as a minimum:

- review site safety requirements
- review emergency protocol for your site and any other site at which the employee may be expected to work
- identify and introduce the evacuation warden for your area
- review accident/incident reporting procedures – call 450-5499 to report an accident or incident to the Safety Unit
- review first aid and emergency equipment locations
- identify site safety committee and members
- introduce new employee to safety reps for the department
- identify WHMIS contact on site
- describe department's procedures for orderly handling of concerns

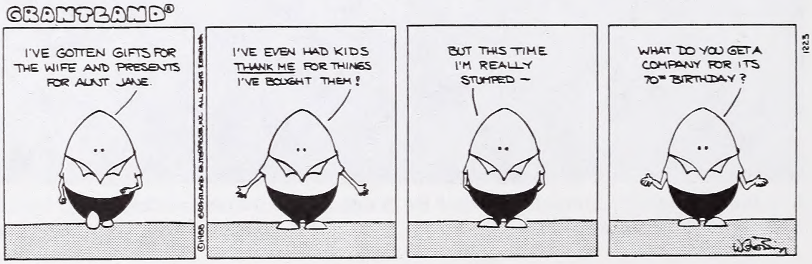
Staff cannot work on site until orientation is complete.

Future issues of Newsline will be devoted to examining the remaining corporate safety requirements in similar detail.

ON THE MOVE

Employee changes

We welcome to the Alberta Research Council: Helen Power, Facilities Planning and Engineering; Slavko Stuhec, Alberta Geological Survey.


GRANTLAND®
I'VE GOTTEN GIFTS FOR THE WIFE AND PRESENTS FOR AUNT JANE.
I'VE EVEN HAD KIDS THANK ME FOR THINGS I'VE BOUGHT THEM!
BUT THIS TIME I'M REALLY STUMPED –
WHAT DO YOU GET A COMPANY FOR ITS 70th BIRTHDAY?
1225

ON THE MOVE

Calgary supervision graduates

Pictured are recent graduates of the in-house supervision skills course. This is the second group of Calgary employees to complete the course. From left, seated: Leona Kwasnitza, Calgary Operations, Wolf Gut, instructor; Donna Ford, Calgary Operations; standing: Mark Brinsmead, Piotr Wojcik, Advanced Computing and Engineering; Ena Spalding, Corporate Communications; Marco Ariano, Jim Tubman, Advanced Computing and Engineering; Lem MacDonald, Manufacturing Technologies.

STAFF NOTES

Advanced Computing and Engineering - Brian Allan, vice-president of Coles Gilbert Associates Ltd. (CGA), recently commented on the Alberta Research Council's joint research venture with Applied Terravision Systems Inc. (ATS), Calgary, an affiliate of CGA.

The project's mandate was to develop a method of extracting ground elevations from two offset satellite pictures. CGA provided the technical skills, Advanced Computing and Engineering developed the technology and ATS coordinated the project. The result, according to Brian, is "one of the best" projects he has ever worked on, in terms of organization and meeting time and budget commitments.

"ATS has quite a number of potential markets for the technology," he says, "from the armed forces to environmental groups. Although the system is expensive to implement at this time, costs are coming down. I aim to have the product in the marketplace within the year and am very pleased with the work accomplished."

Department staff involved in the project included **Doug Brockelbank** and **Yiu-Wing Tam.** (excerpted from the November, 1990 edition of "Yopsters'

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HEALTH & SAFETY

Incidents of interest reported

As conscious as we are about safety at the Alberta Research Council, accidents do occasionally happen. While we try to prevent them, there is no reason not to learn from our mistakes when they do occur.

This was the philosophy of the Joint Safety and Health Committee, when its members opted to publicize incidents of general interest in Newsline. One to two examples will now be published occasionally in this column.

Spill – On June 12, 1990, an employee answered the telephone with a cup of coffee in hand. The phone receiver accidently hit the coffee cup, causing the liquid to spill on the person, as well as the terminal keyboard.

Result – The keyboard shorted out because of the liquid. Cost of replacement was $468. There was a high potential for electric shock to the employee.

Recommendation – Care should be taken not to spill any liquids in the vicinity of electrical equipment. As a reminder, corporate safety requirement number 20 states, "Food and/or beverages will not be consumed and/or stored in a laboratory, pilot plant or hazardous environment."

Injury incident resulting in lost time – On June 19, 1990, while an employee was removing a gas cylinder from a cart, the cylinder tipped and fell forward. The employee attempted to prevent the cylinder from hitting the floor.

Result – Cylinder landed on employee's left foot, causing fractures to the great and second toe.

Recommendation – Where steel toed shoes are required footgear, employees must adhere to the safety requirement. Staff at all Research Council sites should be trained on how to safely move cylinders and to understand the hazards associated with this practice.

STAFF NOTES *(continued from page seven)*

Yap", written by Advanced Computing and Engineering's Penelope Rokeby.)

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Forestry - Department staff, at the invitation of **Dr. Gilbert Proulx,** head of the Wildlife Section, spent November 8 in Vegreville, touring the Humane Trapping Compound and becoming familiar with the work performed there.

Trapping is a means of livelihood for many. The importance of developing humane traps was evident to Forestry staff after they viewed comparison videos of trap tests using conventional traps and the new, humane traps developed at the Alberta Research Council. Finding a way to reduce the animals' suffering is what humane trapping is all about, and what Dr. Proulx and his colleagues are dedicated to achieving.

On their way back, staff enjoyed a pizza lunch and a visit to Vegreville's landmark Easter egg.

★ ★ ★

Oil Sands and Hydrocarbon Recovery – Department staff collected $269.46 for Santa's Anonymous this year.

Prior to viewing the animals, staff donned disposable white overalls and plastic shoe covers to protect the animals from contamination.

FEEDBACK CORNER

Homework assignment offers valuable insights

Linda Hilts and **Robert Koller,** Electronics Test Centre, surveyed 240 of their Alberta Research Council colleagues in October to determine how staff at the Mill Woods site felt about the future of their organization.

The survey was part of the requirements of an Organizational Behavior course both took through the University of Alberta's Faculty of Extension last year.

Some 40 per cent responded to the 16-question survey and pointed out both strengths and opportunities for improvement at the Alberta Research Council.

A key strength was the number of employees who felt the future of the organization looked bright (67 per cent Strongly Agreed/Agreed). A high percentage, 79 per cent, felt their colleagues were cooperative, 65 per cent said they were satisfied with their jobs, and 61 per cent felt there were good communication paths between employees and supervisors regarding job-related information. Many also felt good about their work and its contribution to the continued success of the Alberta Research Council (60 per cent).

Areas noted for improvement included opportunities for advancement, proper use of staff talents and the decision-making process at the Alberta Research Council.

Only 41 per cent said that working hard in their present job would create an opportunity for advancement. A large number, 51 per cent, felt that they had job-related talent that was not often used at work and 63 per cent said they would be more satisfied and productive if their talents could be put to better use. Finally, 69 per cent said they would like to see more decision-making through group participation.

In their final report, Linda and Robert recommended a number of steps the organization could take to address the opportunities uncovered by the survey. These include: looking at ways to appropriately involve a wider range of people in decision making; discovering and utilizing job-related talents currently being underdeveloped; giving more emphasis to promoting career growth within the organization, at all levels; and fostering better departmental cooperation on projects to promote career growth and the utilization of talented employees.

Anyone interested in seeing the responses to all questions can obtain a copy of the survey from site libraries. Staff who have not yet done so are also encouraged to complete this questionnaire and send it to Wolf Gut, Human Resources Department. Should additional response generate new information, the results will be reported in a later issue of Newsline.